

1 **WHAT IS CLAIMED IS:**

2 1. A trigger assembly for a crossbow having a stock and a transverse
3 bow with a bowstring, the trigger assembly comprising:

4 a housing adapted to be mounted on the stock and having a top, a bottom,
5 a front end, a rear end, a side, a mouth with a top and a bottom defined
6 transversely in the front end and a slot defined transversely through the side and
7 parallel to the mouth;

8 a trigger mounted pivotally in the housing and having a top portion and a
9 bottom portion that protrudes out from the bottom of the housing;

10 an actuating lever mounted pivotally in the housing, abutting the top
11 portions of the trigger and having a front end with a hook and a rear end;

12 a bowstring catch mounted pivotally in the housing and having a front
13 end, a rear end, a string hook formed on the front end and corresponding to the
14 mouth in the housing and a leg extending downward from the rear end and
15 selectively engaging the hook on the actuating lever;

16 a bowstring catch biasing member mounted in the housing between the
17 top of the housing and the bowstring catch to pivot the string hook out of the
18 mouth;

19 a safety pin mounted moveably in the housing and having a top and a
20 bottom that is supported on the rear end of the actuating lever;

21 a safety lock mounted moveably in the housing and having a front end, a
22 rear end corresponding to and selectively abutting the top of the safety pin and a
23 push rod extending transversely from the safety lock and out of the slot in the
24 housing;

1 a pushing arm mounted moveably in the housing and having a bottom, a
2 front end corresponding to the mouth in the housing, a rear end and a protrusion
3 abutting the push rod on the safety lock;

4 a block mounted pivotally in the housing and having a transverse rod
5 extending transversely from the block and selectively engaged by the front end
6 of the pushing arm;

7 a block biasing member mounted in the housing and connected to the
8 block to push the block into the mouth when the transverse rod on the block
9 disengages from the front end of the pushing arm; and

10 a string stop mounted pivotally in the housing , extending into the mouth
11 and corresponding to the block.

12 2. The trigger assembly as claimed in claim 1, wherein the housing is
13 composed of two half shells attached to each other.

14 3. The trigger assembly as claimed in claim 2, wherein the pushing arm
15 further has a notch defined in the bottom at the front end to selectively engage
16 the transverse rod on the block.

17 4. The trigger assembly as claimed in claim 3, wherein the mouth has a
18 top and a bottom;

19 the block is pivotally mounted in the housing at the bottom of the mouth
20 and has a top selectively extending into the mouth and a bottom;

21 the second biasing member has one end connected to the bottom of the
22 block; and

23 the string stop is pivotally mounted in the housing at the top of the
24 mouth.

1 5. The trigger assembly as claimed in claim 4 further comprising a sight
2 mount mounted on the top of the housing to support an aiming device.

3 6. The trigger assembly as claimed in claim 5, wherein the sight mount is
4 pivotally attached to the top of the housing and has a bottom, a pivot point, a
5 front segment forward of the pivot point and a rear segment aft of the pivot point;
6 and

7 an adjusting device is mounted in the housing to adjust the sight mount
8 vertically relative to the housing, and the adjusting device comprises

9 an adjustment knob rotatably mounted in the rear end of the housing and
10 having a stub with an outer periphery rotatably extending into the housing and a
11 cam formed on the outer periphery of the stub;

12 a pushing block mounted moveably in the housing and having a top
13 extending out from the top of the housing and abutting the bottom of the sight
14 mount in the rear segment and a concave bottom abutting the cam on the
15 adjustment knob; and

16 a sight mount biasing member mounted between the top of the housing
17 and the bottom of the sight mount at the front segment.

18 7. The trigger assembly as claimed in claim 6 further comprising a
19 resilient arrow retainer mounted on the top of the housing and extending
20 downward to correspond to the mouth in the housing.

21 8. The trigger assembly as claimed in claim 1, wherein the pushing arm
22 further has a notch defined in the bottom at the front end to selectively engage
23 the transverse rod on the block.

24 9. The trigger assembly as claimed in claim 1, wherein the mouth has a

1 top and a bottom;

2 the block is pivotally mounted in the housing at the bottom of the mouth

3 and has a top selectively extending into the mouth and a bottom;

4 the second biasing member has one end connected to the bottom of the

5 block; and

6 the string stop is pivotally mounted in the housing at the top of the

7 mouth.

8 10. The trigger assembly as claimed in claim 1 further comprising a sight

9 mount mounted on the top of the housing to support an aiming device.

10 11. The trigger assembly as claimed in claim 8, wherein the sight mount

11 is pivotally attached to the top of the housing and has a bottom, a pivot point, a

12 front segment forward of the pivot point and a rear segment aft of the pivot point;

13 and

14 an adjusting device is mounted in the housing to adjust the sight mount

15 vertically relative to the housing, and the adjusting device comprises

16 an adjustment knob rotatably mounted in the rear end of the housing and

17 having a stub with an outer periphery rotatably extending into the housing and a

18 cam formed on the outer periphery of the stub;

19 a pushing block mounted moveably in the housing and having a top

20 extending out from the top of the housing and abutting the bottom of the sight

21 mount in the rear segment and a concave bottom abutting the cam on the

22 adjustment knob; and

23 a sight mount biasing member mounted between the top of the housing

24 and the bottom of the sight mount at the front segment.

1 12. The trigger assembly as claimed in claim 1 further comprising a
2 resilient arrow retainer mounted on the top of the housing and extending
3 downward to correspond to the mouth in the housing.